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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,616	10/06/2003	Bernardo Donoso	AMAT/8260/CMP/ECP/RKK	5563

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EXAMINER

HUSBAND, SARAH E

ART UNIT	PAPER NUMBER
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1746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/680,616

Applicant(s)

DONOSO ET AL.

Examiner

Sarah E. Husband

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,23 and 44-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,23 and 44-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/7/2006 regarding claim 5 have been fully considered but they are not persuasive. Applicant argues that the combination does not teach the claimed invention, specifically that Taatjes does not disclose an angled substrate guide surface positioned radially outward of the substrate support surface. However, this is not found persuasive because Taatjes clearly shows a part of a fixed support member 110a (as agreed by Applicant in the Remarks), but also shows a second portion to the fixed support which is Item 116A in Figures 2A and 2B. It is shown as positioned in the same place while the pivotal section moves. It is also described in the specification as "the tapered surfaces of the guide pins 116A-116C are angled such that, if the wafer is placed "off-center" when the robot releases it, the wafer slides down the guide pins and thereby guided into the support pin..." Therefore, Applicant's arguments regarding claim 5 are not persuasive and the rejection is maintained.

The arguments regarding claim 23 are also not persuasive for similar reasons given above. Applicant argues that the fixed post does not have an inclined substrate-centering surface. However, as described above Taatjes does clearly describe this limitation.

Therefore, the rejection stands as follows.

Claim Objections

Claim 5 is objected to because of the following informalities: applicant refers to the substrate engaging member throughout the claim, however in line 11 refers to a substrate engaging finger member. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 23, 44, 46, 52, 54, 57, 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindner (US Patent Application Publication 20020002991 A1) in view of Taatjes (US Patent No. 6,167,893).

Lindner discloses a substrate treating apparatus having an inner process region (Fig. 4, Item 17), a rotatable substrate support member having a rotatable flywheel (Fig. 2, Item 17), a stationary tubular body (fixed central hub member) (Fig. 2, Item 8) having a plurality of gripping elements (engaging members) (Fig. 2, Item 19), and the central member having a plurality of fluid supplying lines (nozzles) with one as a gas dispensing nozzle (Fig. 2, Items 22, 24 and 26) and at least one frontside fluid dispensing nozzle (Fig. 4, Item 28; paragraphs 34-40; paragraph 47). Lindner further discloses there can be a waveguide (substrate sensing assembly) to indicate whether a wafer is in place (paragraph 15), which is positioned outside the cell body because it extends into the bottom portion (Fig. 4, Item 36). Lindner further describes a shield (30, 40). Although the shield (30) shown by Lindner is not attached to

hub yet substantially covers the flywheel, it would be obvious to one of ordinary skill in the art to attach this member to the hub as shield (40) is also attached and the Courts have upheld that making elements integral is obvious, *Nerwin v. Erlichman* 168 USPQ 177 (PO BdPatApp 1969); *In re Wolfe* 116 USPQ 443 (CCPA 1958). Lindner does not disclose an outer pivotal engaging member with an inner fixed member. Taatjes discloses the pivotal member (112) and the fixed engaging member (110, 116) having a substantially horizontal support surface and an angled surface positioned outside of the support surface (See Fig. 2A, 2B, col. 2). Taatjes further discloses the fixed member is in a vertical channel of the pivotal member (Fig. 2A) and the engaging member has a notch (117). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Lindner with Taatjes for the benefit of holding the wafer securely (col. 1).

Claims 45 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindner and Taatjes as applied to claim 16 above, and further in view of Allen.

Lindner and Taatjes disclose the wafer treatment apparatus shown above in the previous 103(a) rejection. They do not disclose circulation breakers. Allen discloses a raised baffle (circulation breaker) to prevent chemical backstreaming (Fig. 4, Item 35; col. 3, ll. 13-16). Although Allen does not show a plurality of the baffles, the Courts have ruled that the duplication of parts is obvious, *St. Regis Paper Co. v. Beemis Co., Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960). Therefore, it would have been obvious to one of ordinary skill in the art to modify the structure shown by Lindner and Taatjes with the baffles for the benefit of more effectively cleaning a wafer.

Claims 47, 48, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindner and Taatjes in view of Orii (US Patent No. 6,863,741).

Lindner and Taatjes disclose the apparatus as shown above in the 103(a) rejection. They do not disclose a light emitter and light detector or its position. Orii discloses a wafer inspecting section having an optical sensor containing a light emitting and light receiving (detecting) element in the wafer path (parallel to the wafer position), which can sense whether a wafer is present or whether it is held normally. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the wafer treatment apparatus shown by Lindner and Taatjes with an optical sensor having light emitters and detectors shown by Orii for the benefit of not only detecting the wafer's presence but also sensing if the wafer was held normally (col. 5, ll. 10-20; Fig. 3, Item 31).

Claims 49-51, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindner and Taatjes as applied to claim 16 and further in view of Kuroda (US Patent No. 6,811,618).

Lindner and Taatjes disclose the wafer treating apparatus shown above in the 103(a) rejection. Taatjes also discloses an engaging notch at the upper and inside end of the engaging assembly (Fig. 1, Item 117). Taatjes does not disclose specifically an engaging finger member having a rounded leading edge with a diameter and a tapering trailing edge having a second diameter less than the first thickness. Kuroda discloses the shape of the engaging fingers being curved and also tapering in thickness (Fig. 8, Item 110 and 112; col. 10, ll. 46-51). At the time of the invention, it would have been obvious to one of ordinary

skill in the art to modify Lindner and Taatjes with Kuroda for the benefit of reducing air resistance when rotating the wafer (col. 10, ll. 48-50).

Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindner in view of Taatjes, as applied to claim 52 above, and further in view of Matusita (US Patent No. 5,954,072).

Lindner and Taatjes describe the wafer treating apparatus shown above in the 103(a) rejection. They do not specifically disclose the pivotally mounted upstanding substrate pivotally actuated via vertical movement of a contact member. Matusita disclose the vertical movement of a contact member pivoting the engaging members (see Fig. 2, Items 33, 34, 44, 42, 41). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Lindner and Taatjes with Matusita for the benefit of being able to control the positioning of the wafer without having to spin the substrate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art not referred to are Maekawa (US 5775000) and Tateyama (US 5421056), who disclose wafer support mechanisms.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah E. Husband whose telephone number is (571) 272-8387. The examiner can normally be reached on M-F 8-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SUPERVISORY PATENT EXAMINER